

Appl. No. : 10/003,749
Filed : October 23, 2001

REMARKS

Claims 1-22 are pending in the present application. Of these, Claims 20 and 21 have been withdrawn from consideration. Claims 1-19 and 22 stand rejected on various grounds, each of which is addressed below. Claims 14, 17, and 22 have been amended to match follow-on recitations with their proper antecedent basis. These amendments do not add new matter.

Claim Rejections Under 35 U.S.C. §112, second paragraph

Claims 14-19 and 22 were rejected under 35 U.S.C. §112, second paragraph, as being indefinite because the term “the part” lacks antecedent basis. Claims 14, 17 and 22 have been amended to replace the phrase “the part” with “the substrate.” As antecedent basis exists for “the substrate,” Applicants request withdrawal of this rejection.

Claim Rejections Under 35 U.S.C. §103(a)

Claims 1-19 and 22 were rejected under 35 U.S.C. §103(a) as unpatentable in view of Derderian et al. (U.S. Patent No. 6,458,416) or Sherman (U.S. Patent No. 6,342,277). The Examiner found that Derderian et al. and Sherman both disclose ALD methods for depositing an aluminum oxide film.

The Examiner recognized that neither Derderian et al. nor Sherman teach a temperature of less than 190°C, as claimed. However, the Examiner found that “it is well known in the art that temperature is conventionally varied with distinct advantages and disadvantages and is a cause effective variable.” He concludes that it would have been obvious to lower the processing temperature below that disclosed in the references because determination of optimum values of cause effective variables is within the skill of one practicing in the art.

Applicants respectfully disagree with the Examiner’s conclusion and submit that the Examiner has provided no motivation for one of skill in the art to select a deposition temperature below 190°C, nor any expectation of success for such deposition. Applicant’s specification points out the criticality of temperature in obtaining useful aluminum oxide films. For example, at page 1, line 26 through page 2, line 13, it is disclosed that prior art films deposited at low

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temperatures had problems that limited their usefulness, included problems with density and reproducibility.

Further, the prior art actually teaches away from the deposition of aluminum oxide films by ALD at low temperatures. For example, as disclosed in the specification, U.S. Patent No. 6,124,158 teaches that aluminum oxide films deposited below 190°C were not dense or reproducible.

As one of skill in the art would have understood that depositing aluminum oxide at temperatures below 190°C was not beneficial, there is no motivation to use these temperatures, nor would the skilled artisan have expected success even if such motivation were shown. Thus, Applicant's request withdrawal of the present rejection.

Conclusion

In view of the amendments and remarks presented above, Applicants respectfully submit that the present application is in condition for allowance. If any issues remain, the Examiner is invited to telephone Applicants' representative at the number provided below in order to resolve such issues promptly.

Respectfully submitted,

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Dated: October 22, 2003

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